

Боксы микробиологической безопасности Bio 2+

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Bio 2+

CLASS II MICROBIOLOGICAL SAFETY CABINET

**ENVAIR****Clean Air & Containment**

Protect users and materials from biohazards



Class II microbiological safety cabinets are designed to allow users to safely carry out manipulations inside the cabinet whilst also keeping the risk of product cross contamination low.

The escape of airborne particulate contamination generated within the cabinet is controlled by means of an appropriate filtered internal airflow and filtration of the exhaust air.

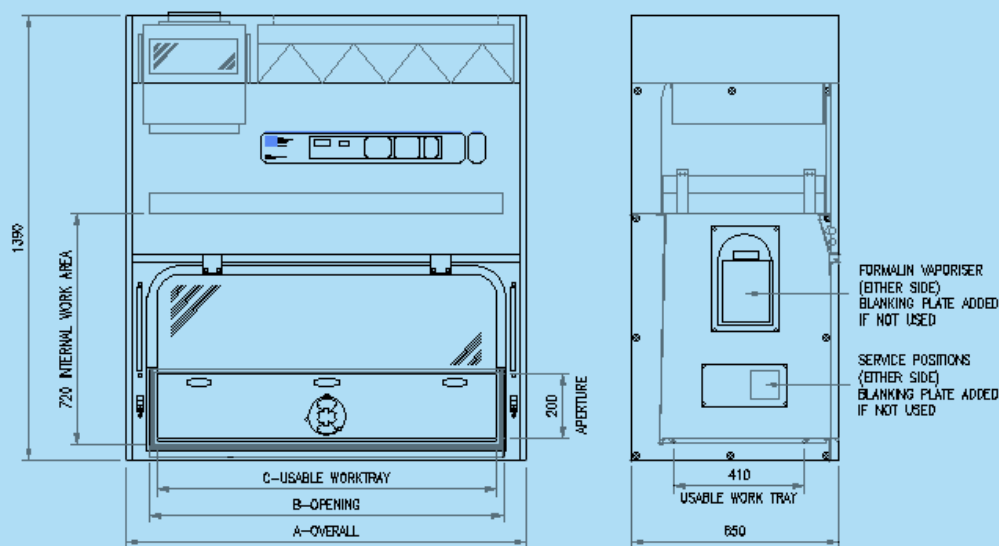
Envair's Bio2+ range of ergonomic, high specification, high performance cabinets with unique double HEPA filtration are ideal for laboratories undertaking cell culture operations. They can also be used by labs handling biological agents up to ACDP Hazard Group 3 (with proper siting).

- Recirculating or ducted exhaust design available
- Double HEPA filtration system comprising a primary (exhaust and main) HEPA filter maintains safe, clean air conditions over the work area
- Fully compliant with BS EN 12469: 2000
- Wide range of sizes, configurations and fumigation options
- Easy to clean, test and maintain

KEY FEATURES

- All fans in HEPA filtered air for long life and safe maintenance
- Integral double HEPA filtration of downflow on all models to ensure air quality in the event of downflow filter failure
- Integral secondary exhaust HEPA filter on recirculating (R) models
- Replacement of primary (exhaust and main) HEPA filter without dismantling fan, electrics or ductwork
- Clean and attractive design in white polyester coated steel construction
- Very high levels of retention efficiency (operator protection) and product protection
- Very high level of protection against cross-contamination
- Simple hinged visor, therefore no difficult or inaccessible areas to clean
- Cabinet body under negative pressure and filters mounted correctly for safety in accordance with BS EN 12469: 2000
- Self-sealing light-weight night door/closure panel for safe fumigation
- Comprehensively alarmed and interlocked for safety
- Access for set up and all maintenance from front of cabinet
- Built in BMS (Building Management System) and auto-damper signal outputs

DIMENSIONS

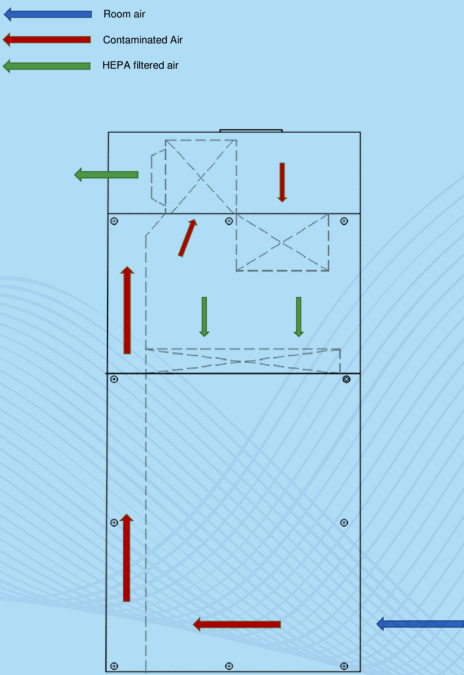


BIO 2 +	A (mm)	B (mm)	C (mm)	Weight (kg)	Power (Watts)	Exhaust rate m³/s	Exhaust rate DB2 m³/s
1.2m	1250	1060	1000	195	900	0.12	0.30
1.5m	1675	1485	1425	235	1200	0.15	0.50
1.8m	1870	1680	1620	285	1200	0.18	0.56

* Except DRS and RRS models. Drawing and dimensions of these models available on request

MODEL DESIGNATIONS	
D	The Bio 2+ D is designed to exhaust HEPA filtered air to atmosphere via a dedicated ducting system and remote mounted extract fan.
DB2	The Bio 2+ DB2 is a 'Total Exhaust' cabinet and 100% of the combined volume of the inflow and downflow air is exhausted via a HEPA filter to atmosphere viaa dedicated ducting system and remote mounted extract fan. (B2 is the American NSF49 designation for 'Total Exhaust' class II microbiological safety cabinets).
DRS	The Bio 2+ DRS is similar to the Bio 2+ D but is generously sized and has additional features in order to accommodate Robotic Samplers and other equipment that might require Class II protection.
R	The Bio 2+ R is designed to exhaust HEPA filtered air back to the laboratory via a dual in line HEPA filter and an integral exhaust fan.
RRS	The Bio 2+ RRS is similar to the Bio 2+ R but is generously sized and has additional features in order to accommodate Robotic Samplers and other equipment that might require Class II protection.
RD	The Bio 2+ RD is designed to exhaust HEPA filtered air into a thimble extract system (provided by the client) via a dual in line HEPA filter, an integral exhaust fan and a special exhaust spigot. A thimble extract system takes the exhaust of a microbiological safety cabinet into a specially designed room extract in such away that the volume of air taken out of the room remains the same whether the cabinet is working or not.

Airflow Diagram





STANDARD SPECIFICATION	D	DB2	DRS	R	RRS	RD
Primary (exhaust and main) HEPA filter to H14 (BS EN 1822)	✓		✓	✓	✓	✓
Downflow HEPA filter to H14 (BS EN 1822)	✓	✓	✓	✓	✓	✓
Secondary exhaust HEPA filter to H14 (BS EN 1822)				✓	✓	✓
Single 100% exhaust HEPA filter to H14 (BS EN 1822)		✓			✓	
Integral anti-blowback damper	✓	✓	✓			
Integral exhaust fan box				✓	✓	
Integral exhaust fan box and thimble exhaust spigot						✓
316L stainless steel work tray with 4 litre spillage capacity	✓	✓	✓	✓	✓	✓
Hinged toughened glass visor, with gas strut supports for opening	✓	✓	✓	✓	✓	✓
Light weight 100% sealable night door (closure panel)	✓	✓		✓		✓
Night door interlocked with formalin / UV light for safety	✓	✓		✓		✓
Light weight night door (closure panel) suitable for sealing with tape			✓		✓	
Easy to clean touch control membrane on hinged lockable control access panel	✓	✓	✓	✓	✓	✓
Solid state fan speed controllers, selectable automatic fan speed control	✓	✓	✓	✓	✓	✓
Latched audible and visible alarms for low and high airflow and for visor open	✓	✓	✓	✓	✓	✓
Alarm for downflow air supply failure, alarm mute and alarm test	✓	✓	✓	✓	✓	✓
Digital inflow air monitoring, filter soil pressure indicator, hours run counter	✓	✓	✓	✓	✓	✓
Switchable auxiliary circuits for gas, UV and formalin vaporiser options, plus 3 spare switches	✓	✓	✓	✓	✓	✓
Internal fluorescent lighting behind sealed acrylic panel	✓	✓	✓	✓	✓	✓
Robotic sampler transfer chassis on roller and rail			✓		✓	✓
Guide rails for loading and removal of robotic sampler			✓		✓	
1 No. RS 232 computer data point (LHS)			✓		✓	
Electrical supply: 230v/50Hz/1Ph	✓	✓	✓	✓	✓	✓
Support frame with adjustable levelling feet			✓			
Support frame with lockable castors					✓	
13 amp single splashproof socket (2 fitted LHS & RHS as standard on DRS and RS models)	✓	✓	✓	✓	✓	✓
OPTIONAL EXTRAS						
Support frame with adjustable levelling feet	✓	✓				✓
Support frame with lockable castors				✓		
316L stainless steel polished internally and externally	✓	✓	✓	✓	✓	✓
UV light	✓	✓	✓	✓	✓	✓
Solenoid controlled fail-safe gas valve	✓	✓	✓	✓	✓	✓
Service taps (ie vacuum, nitrogen, compressed air)	✓	✓	✓	✓	✓	✓
FUMIGATION OPTIONS						
Integral formalin vaporiser with auto timer*	✓	✓				
Integral formalin vaporiser with auto timer and exhaust sealing valve†				✓		✓
Auto-purge to allow fully automatic fumigation cycle*†	✓	✓		✓		✓
5m fumigant extract flexible duct including connection†				✓		
Mobile carbon filter unit				✓	✓	
H2O2 vapour phase bio decontamination system including connections and sealing valves	✓	✓	✓	✓	✓	✓

* Standard on the DRS model † Standard on the RRS model

NB. When a formalin vaporiser is fitted to a recirculating (R or RRS) cabinet, it must be used either in conjunction with the 5m fumigant extract flexible duct including connection (if there is a window or fume cupboard nearby through which it can exhaust) or with the mobile carbon filter unit.

Bio 2+

CLASS II MICROBIOLOGICAL SAFETY CABINET

**ENVAIR**

Clean Air & Containment



Aerodynamically independent downflow and exhaust air fan systems ensure quick and easy set up



Optional vari-height system with remote



Easy to clean membrane control panel

STANDARDS COMPLIANCE

- BS EN 12469: 2000
- CERTIFIED BY HPA (NOW PUBLIC HEALTH ENGLAND) AT PORTON DOWN
- ALL HEPA FILTERS H14 TO BS EN 1822-1: 1998
- IEC 61010-1: 2001
- INSTALLATION TO BS 5726: 2005 IS RECOMMENDED
- AIR QUALITY TO ISO CLASS 5 (BS EN ISO 14644-1: 1999) AND EC GMP GRADE A FOR A HIGH LEVEL OF PRODUCT PROTECTION

QUALITY STATEMENT

Since 1972, Envair have been pioneering the engineering of bespoke GMP compliant ultra-clean and containment equipment for the medical, healthcare, biotech and pharmaceutical industries.

To ensure lifetime, trouble-free use, we provide a comprehensive maintenance, testing and parts service. Please ask us for details.

As part of Envair Technology, we can also offer access to a full portfolio of flexible containment and process solutions.



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